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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,387	10/07/2003	Hisao Kato	03500.017628.	4250

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EXAMINER
KRUER, KEVIN R

ART UNIT	PAPER NUMBER
1773	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	**Application No.** 10/679,387	**Applicant(s)** KATO ET AL
	Examiner Kevin R Kruer	**Art Unit** 1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/16/2004*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement mailed March 16, 2004 has been fully considered. An initialed copy of said PTO-1449 is enclosed herein.

Drawings

3. The drawings filed 10/07/2003 are accepted.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over. JP 20022212413A(herein referred to Sumitomo Rubber) in view of JP 2002105305A (herein referred to as Hattori).

Sumitomo Rubber teaches an electrically conductive roll which comprises rubber and an ethylene oxide-propylene oxide-allyl glycidyl ether copolymer (abstract). The layer comprises 95-30wt% rubber and 5-70wt% of the copolymer (abstract) wherein the rubber is preferably NBR (abstract). The rubber is useful in electrification rollers such as a copy machine and printer, in a developing roller, a toner feed roller, an imprint roller, etc (0001). Said composition exhibits low ozone resistance, low photoconductor contamination, excellent dimensional stability, and is environmentally friendly (0016).

Sumitomo Rubber does not teach that the composition should further comprise epichlorohydrin rubber. However, Hattori teaches that a composition comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 (abstract). When utilized together in such amounts, exhibits the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls (0022). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a blend comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 in place of the ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer taught in Sumitomo Rubber. The motivation for doing so would have been that such blends exhibit the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 20022212413A (herein referred to Sumitomo Rubber) in view of JP 2002105305A (herein referred to as Hattori), as applied to claim 1 above, and further in view of Yabushita (US 5,393,467) and Nguyen (US 5,666,615).

Sumitomo Rubber is relied upon as above, but does not teach that the composition should comprise EPDM. However, Yabushita teaches an electrically conductive rubber material wherein EPDM is added to said rubber in order to improve its ozone resistance (col 3, lines 11+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add EPDM to the composition taught in Sumitomo Rubber. The motivation for doing so would have been to improve the composition's ozone resistance.

Sumitomo Rubber also does not teach that the composition may comprise EVA. However, Nguyen teaches that toners utilized with such electrically conductive rollers typically comprise ethylene vinyl acetate binders (col 8, lines 7+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize said roller with an ethylene vinyl acetate toner. The motivation for doing so would have been that such toners are typically used in the art. The examiner takes the position that the roller taught in Sumitomo rubber will "contain" EVA when said roller has been utilized with an EVA containing toner.

8. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admissions in view of JP 20022212413A(herein referred to Sumitomo Rubber) and JP 2002105305A (herein referred to as Hattori).

Applicant admits that a typical image-forming apparatus comprises a means for transferring a toner image to a second image-bearing member from a first image bearing member holding on the surface thereof a tone image formed by an electro-photographic system, wherein the means comprises a charging member which applies a potential with a polarity opposite to that of the toner image to the second image-bearing member in a state that the toner-holding surface of the first image bearing member and the second image bearing member are brought in close contact with one another (see pages 2 and 3 of the specification).

Applicant does not admit that the charging means could comprise the claimed composition. However, Sumitomo Rubber teaches an electrically conductive roll which comprises rubber and an ethylene oxide-propylene oxide-allyl glycidyl ether copolymer (abstract). The layer comprises 95-30wt% rubber and 5-70wt% of the copolymer (abstract) wherein the rubber is preferably NBR (abstract). The rubber is useful in electrification rollers such as a copy machine and printer, in a developing roller, a toner feed roller, an imprint roller, etc (0001). Said composition exhibits low ozone resistance, low photoconductor contamination, excellent dimensional stability, and is environmentally friendly (0016). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the conductive roll taught in Sumitomo rubber as the charging means admitted by applicant. The motivation for doing so would have been that said roll exhibits low ozone resistance, low photoconductor contamination, excellent dimensional stability and is environmentally friendly

Sumitomo Rubber does not teach that the composition should further comprise epichlorohydrin rubber. However, Hattori teaches that a composition comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 (abstract). When utilized together in such amounts, exhibits the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls (0022). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a blend comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 in place of the ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer taught in Sumitomo Rubber. The motivation for doing so would have been that such blends exhibit the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls.

9. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusaba et al (US 6,144,830) in view of JP 20022212413A(herein referred to Sumitomo Rubber) and JP 2002105305A (herein referred to as Hattori).

Kusaba teaches an image forming apparatus typically comprises an electro-photographic photosensitive member, a charging means for charging the electro-photographic photosensitive member, a means for exposing the electrophotographic member thus charged to form an electrostatic latent image thereon, a means for developing the electrostatic latent image to form a toner image, and a transfer means for transferring the toner image directly or indirectly to the surface of an image bearing member, wherein the transfer means has a means for charging the image bearing member (see Fig 3 and col 7, lines 24+).

Kusaba does not teach that the charging means could comprise the claimed composition. However, Sumitomo Rubber teaches an electrically conductive roll which comprises rubber and an ethylene oxide-propylene oxide-allyl glycidyl ether copolymer (abstract). The layer comprises 95-30wt% rubber and 5-70wt% of the copolymer (abstract) wherein the rubber is preferably NBR (abstract). The rubber is useful in electrification rollers such as a copy machine and printer, in a developing roller, a toner feed roller, an imprint roller, etc (0001). Said composition exhibits low ozone resistance, low photoconductor contamination, excellent dimensional stability, and is environmentally friendly (0016). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the conductive roll taught in Sumitomo rubber as the charging means taught by Kusaba. The motivation for doing so would have been that said roll exhibits low ozone resistance, low photoconductor contamination, excellent dimensional stability and is environmentally friendly

Sumitomo Rubber does not teach that the composition should further comprise epichlorohydrin rubber. However, Hattori teaches that a composition comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 (abstract). When utilized together in such amounts, exhibits the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls (0022). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a blend comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 in place of the ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer taught in Sumitomo Rubber. The motivation for doing so would have been that such blends exhibit the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kusumoto et al (US 4,841,336) in view of JP 20022212413A (herein referred to Sumitomo Rubber) and JP 2002105305A (herein referred to as Hattori).

Kusumoto teaches that a process cartridge typically comprise an image bearing member and a charging member which are integrally supported, and is detachably mounted on the main body of an image forming apparatus (col 1, lines 18+).

Kusumoto dos not teach that the charging means should comprise the claimed composition. However, Sumitomo Rubber teaches an electrically conductive roll which comprises rubber and an ethylene oxide-propylene oxide-allyl glycidyl ether copolymer (abstract). The layer comprises 95-30wt% rubber and 5-70wt% of the copolymer (abstract) wherein the rubber is preferably NBR (abstract). The rubber is useful in electrification rollers such as a copy machine and printer, in a developing roller, a toner feed roller, an imprint roller, etc (0001). Said composition exhibits low ozone resistance, low photoconductor contamination, excellent dimensional stability, and is environmentally friendly (0016). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the conductive roll taught in Sumitomo rubber as the charging means taught by Kusumoto. The motivation for doing so would have been that said roll exhibits low ozone resistance, low photoconductor contamination, excellent dimensional stability and is environmentally friendly

Sumitomo Rubber does not teach that the composition should further comprise epichlorohydrin rubber. However, Hattori teaches that a composition comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 (abstract). When utilized together in such amounts, exhibits the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls (0022). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a blend comprising ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer and epichlorohydrin in relative amounts of 0.01-4.00 in place of the ethylene-oxide-propylene oxide-allyl glycidyl ether copolymer taught in Sumitomo Rubber. The motivation for doing so would have been that such blends exhibit the electrical resistance, physical properties, volume resistivity and photoconductor contamination characteristics desirable in such electrically conductive rolls.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin R Kruer whose telephone number is 571-272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin R. Kruer
Patent Examiner-Art Unit 1773